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PROCEEDINGS
OF THE
AMERICAN PHILOSOPHICAL SOCIETY.

VOL. II.

JANUARY, 1841.

No. 15.

Stated Meeting, January 1.

Present, twenty members.

Dr. PATTERSON, Vice President, in the Chair.

The judges of the annual election, held this day, reported that the following officers had been chosen for the present year:—

President.

Peter S. Du Ponceau, LL.D.

Vice Presidents.

Nathaniel Chapman, M.D.,
Joseph Hopkinson, LL.D.,
Robert M. Patterson, M.D.

Secretaries.

Franklin Bache, M.D.,
John K. Kane,
Alexander Dallas Bache, LL.D.,
Robley Dunglison, M.D.

Counsellors for Three Years.

Robert Hare, M.D.,
William Hembel,
Charles D. Meigs, M.D.,
Henry Vethake, LL.D.

Counsellor for One Year,

(In the place of William H. Keating, deceased.)

Joseph Henry, LL.D.

Curators.

John P. Wetherill,
Isaac Hays, M.D.,
Franklin Peale.

Treasurer.

John Vaughan.

A letter was received from the Minister of the Interior of Holland, in behalf of the Royal Library of the Hague, acknowledging the receipt of the Transactions of the Society.

The following donations were received:—

FOR THE LIBRARY.

Reports of a Committee formed in Calcutta for investigating the Resources of India, with reference to Coal and Iron. Calcutta, 1838.—*From the Asiatic Society of Bengal.*

Asiatic Researches of the Asiatic Society of Bengal. Vol. XIX. Part II. 4to. Calcutta, 1839.—*From the same.*

Annual Report of H. R. Schoolcraft, Acting Superintendent of Indian Affairs for Michigan, to P. H. Crawford, Esq., Commissioner of Indian Affairs. Detroit, 1840.—*From the Author.*

A Catalogue of the Plants found in the Vicinity of Milwaukie, Wisconsin Territory. By J. A. Lapham. Milwaukie, 1838.—*From the Author.*

The South Western Journal. Nos. 1 to 15 inclusive (No. 5 wanting). Natchez, 1837, 1838.—*From Mr. C. G. Forshey.*

Traité Élémentaire d'Astronomie Physique, par J. B. Biot; avec des Additions d'Astronomie Nautique, par M. de Rossel. 3 Vols. 8vo. Paris, 1810, 1811.—*From Mr. Vaughan.*

A Treatise on the Administration of the Finances of France, translated from the French of M. Necker. By Thomas Mortimer. 3 Vols. 8vo. London, 1785.—*From the same.*

Nouveau Dictionnaire Universel des Synonymes de la Langue Française, par F. Guizot. 2 Vols. 8vo. Paris, 1822.—*From the same.*

L'Art de parler et d'écrire correctement la Langue Française; ou Grammaire Philosophique et Litteraire, par l'Abbé Lévizac. 2 Vols. 8vo. Paris.—*From the same.*

Histoire d'Haiti depuis la découverte jusque 1824, époque des dernières Négociations entre la France et le Gouvernement Haitien, par Charles Malo. Paris, 1825.—*From the same.*

Précis Historique des Négociations entre la France et St. Domingue, suivi des pièces justificatives et d'une notice Biographique sur le Général Boyer, par M. Waller. Paris, 1826.—*From the same.*

Deliciæ Cobresianæ: Catalogue of Mr. Cobres' Library of Natural History. 2 Vols. 8vo. Augusta, 1782.—*From the same.*

FOR THE CABINET.

A Lithographic Drawing of the Statue of Sir Isaac Newton, by Roubilliac.—*From the Rev. C. Turner, F.R.S.*

The Committee, consisting of Mr. Lea, Dr. Wood, and Dr. Coates, to whom was referred, on the 18th of December last, the continuation of Mr. Nuttall's communication, entitled "On the *Corymbiferæ*, collected on a tour across the continent of North America," reported in favour of its publication in the Transactions, which was ordered accordingly. The Committee of Publication was authorized to print it continuously with Mr. Nuttall's former paper on the same subject.

Dr. Emerson reverted to the oral communication made at the last meeting in regard to the evolution of electricity from steam.

He was pleased to find the results of more recent investigations, and especially of the experiments of the gentleman who introduced the subject before the Society, sustaining the view he had taken in his lectures on Meteorology, delivered before the Franklin Institute in the year 1834. In these lectures he had expressed his opinion that the electricity developed in thunder storms, was to be regarded rather as an accompaniment than a cause of the storm. The vapour condensed was derived from the spot where the storm prevailed, and the electricity was set free during the condensation of the vapour, in a manner similar to the evolution of latent heat. Dr. Emerson read a portion of the lecture delivered before the Franklin Institute at the time alluded to, as more fully explanatory of his views relative to the evolution of electricity during the condensation of vapour.

Professor H. D. Rogers communicated some observations upon the geological structure of Berkshire, Mass., and the neighbouring parts of New York, which had been made by his brother, Professor W. B. Rogers, and himself, in the month of August last; and indicated the theory by which they concurred in explaining the phenomena which characterize that region.

Professor Rogers adverted to the fact, already noticed by geologists, that all the strata between the Hoosac mountain and the Hudson river, hold an inverted order, the newer being found beneath the older rocks. He exhibited drawings of these strata, establishing the existence of numerous *closely folded* anticlinal and synclinal axes; and deduced the conclusion by a train of reasoning, that the inverted dip of the rocks at the surface is the result of a folding or wrinkling of the beds at short intervals, and not of one general turning over of the whole series as suggested by geologists.

Subterranean igneous action was referred to, as having effected this compressing and folding of the rock; and its energy was shown to have

been greatest along the Berkshire valley and the ridges east. A solution was thus given of the difficult problem of the crystalline or primary character of the Berkshire marble, and the adjoining micaceous and talcose schists, whose secondary origin was contended for. In the opinion of Professor Rogers, the Berkshire marble was clearly established to be merely the blue limestone of the Hudson valley, extensively metamorphosed by heat and the associated micaceous, talcose, and other schists, referred to the slaty beds of the lowest formation of the Appalachian secondary system. He considered it highly probable also, that the semi-vitrified quartz rock of the western part of the Hoosac mountain is nothing else than the highly altered white sandstone at the base of the same series.

Mr. Kane read portions of a correspondence between Mr. Justice and the Secretary of the Commonwealth of Pennsylvania, in relation to the astronomical instruments recently imported for the High School of this city, and to the propriety of an appropriation by the State for the maintenance of a public observatory. On motion of Mr. Kane, the correspondence was referred to the Committee on the Observatory.

Mr. Peale, chief coiner of the Mint, submitted to the inspection of the members, a complete series of the coins of the United States for 1841.

Dr. Dunglison, from the Secretaries, reported that they had fixed the future annual subscription price of the extra copies of the Society's Proceedings, at One Dollar.

Stated Meeting, January 15.

Present, twenty-four members.

Mr. DU PONCEAU, President, in the Chair.

Letters were read, from Mr. Eyries, of Paris, acknowledging the honour done him by his election to membership, and from M. Flourens, Secretary of the Academy of Sciences, Institute of France, acknowledging the receipt of the Proceedings of the Society, for May, June and July, 1840.

The following donations were received:—

FOR THE LIBRARY.

The Boston Journal of Natural History, containing Papers and Com-